What is Claimed is:

1. A system for controlling the temperature climate in a variable temperature occupant seat comprising:

an occupant seat having internal air channels for distributing temperature conditioned air through the seat and directing it to an occupant;

at least one heat pump for providing temperature conditioned air, each heat pump being connected to the seat by an air conduit;

a controller for automatically regulating the operation of each heat pump.

2. The system as recited in claim 1 comprising a temperature sensor for monitoring the operation of each heat pump, the temperature sensor being electrically connected to the controller.

3. The system as recited in claim 2 wherein the temperature sensor is positioned in heat pump.

4. The system as recited in claim 3 comprising temperature sensors positioned in a flow path of the temperature conditioned air.

5. The system as recited in claim 1 wherein each heat pump comprises a number of thermoelectric modules, a main exchanger fan, and a waste exchanger fan.

6. The system as recited in claim 3 comprising a fan switch for manually activating the main fan of each heat pump and a temperature switch for manually activating the thermoelectric modules in each heat pump, the fan switch and the temperature switch being electrically connected to the controller.

7. A system for controlling the temperature climate in a variable temperature occupant seat comprising:

an occupant seat having internal air channels for distributing temperature conditioned air through the seat and directing it to an occupant;

at least one heat pump connected to the seat by an air conduit for providing temperature conditioning air to the seat, each heat pump comprising:

a number of thermoelectric modules for temperature conditioning the air;

a main exchanger fan for passing the temperature conditioned air through the seat to an occupant; and

a waste exchanger fan for removing unwanted thermal energy from the thermoelectric modules;

a temperature sensor positioned in each heat pump; and

a controller for automatically regulating the operation of each heat pump independent of occupant input.

8. The system as recited in claim 7 wherein each seat comprises two heat pumps, one heat pump providing temperature conditioned air to a back portion of the seat and the other heat pump providing temperature conditioned air to a bottom portion of the seat.

9. The system as recited in claim 8 comprising a single fan switch for manually operating the main fans of both heat pumps, and a single temperature switch for mutually operating the thermoelectric modules of both heat pumps.

10. The system as recited in claim 8 comprising two fan switches for manually operating the main fans of each heat pump independently, and two temperature switches for manually operating the thermoelectric modules of both heat pumps independently.

11. The system as recited in claim 8 comprising one fan switch for mutually operating main fans of both heat pumps, and two temperature switches for manually operating the thermoelectric modules of both heat pumps independently.

12. The system as recited in claim 8 comprising two fan switches for manually operating the main fans of each heat pump independently, and a single temperature switch for mutually operating the thermoelectric modules of both heat pumps.

13. The system as recited in claim 7 wherein each seat comprises one heat pump, the heat pump being connected to the seat by an air conduit configured to simultaneously distribute temperature conditioned air to a back portion of the seat and a bottom portion of the seat.

14. The system as recited in claim 13 comprising at least one valve positioned in the air conduit for regulating the distribution of the temperature conditioned air between the back portion of the seat and the bottom portion of the seat.

15. The system as recited in claim 7 comprising a temperature sensor positioned to sense the operation of the heat pump.

16. The system as recited in claim 15 comprising at least one temperature sensor positioned in the flow path of the temperature conditioned air.

17. The system as recited in claim 7 comprising a occupant presence sensitive switch positioned in the seat and being electrically connected to the controller for automatically activating the heat pump upon an occupant sitting in the seat.

18. The system as recited in claim 17 comprising more than one seat, the operation of each heat pump for each seat being automatically regulated by a single controller.

19. A system for controlling the temperature climate in a variable temperature occupant seat comprising:

an occupant seat comprising a seat bottom and a seat back portion each having internal air channels for distributing temperature conditioned air through the seat and directing it to an occupant;

a seat back heat pump for conditioning the temperature of the air and passing the air through an air conduit to the seat back, the seat back heat pump comprising a main exchanger fan and a number of thermoelectric modules;

a seat bottom heat pump for conditioning the temperature of the air and passing the air through an air conduit to the seat bottom, the seat bottom heat pump comprising a main exchanger fan and a number of thermoelectric modules;

a temperature sensor positioned in each heat pump; and

means for automatically controlling the activation of the main fans and the mode of operation for the thermoelectric modules in each heat pump.

20. The system as recited in claim 19 comprising a temperature sensor positioned in the flow path of the temperature conditioned air.

21. The system as recited in claim 19 comprising a fan switch configured to activates both main exchanger fans at once, the fan switch being electrically connected to the automatic controlling means.

22. The system as recited in claim 21 comprising a temperature switch configured to select a mode of operation for the thermoelectric modules in each heat pump, the temperature switch being electrically connected to the automatic controlling means.

23. The system as recited in claim 19 comprising two fan switches, one configured to operate the main exchanger fan of the seat back heat pump and the other configured to operate the main exchanger fan of the seat bottom heat pump, and two temperature switches, one configured to operate the thermoelectric modules of the seat back heat pump and the other configured to operate the thermoelectric modules of the seat bottom pump, each electric switch being electrically connected to the automatic controlling means.

24. The system as recited in claim 19 comprising at least one temperature sensor positioned outside of the seat in the ambient air surrounding the seat, each temperature sensor being electrically connected to the controlling means.

Sub B2 25. The system as recited in claim 19 wherein the occupant seat comprises an indicator for detecting the presence of an occupant, the indicator being electrically connected to the automatic controlling means.

26. The system as recited in claim 19 comprising more than one occupant seat, the seat back and seat bottom heat pumps for each seat being automatically controlled by a common automatic controlling means.

27. A method for controlling the temperature climate in a variable temperature occupant seat, the method comprising the steps of:

activating a number of thermoelectric modules for temperature conditioning air to be distributed through a variable temperature seat;

activating at least one electric fan for passing the temperature conditioned air through air channels inside of the variable temperature seat to an occupant;

sensing the temperature of the thermoelectric modules and relaying the temperature information to a controller;

automatically adjusting the electrical power to each thermoelectric module according to the temperature of the thermoelectric modules.

28. The method as recited in claim 27 comprising manually adjusting the speed of each electric fan and mode of operation for each thermoelectric module to provide a desired flow rate and temperature of conditioned air directed to the occupant.

29. The method as recited in claim 28 wherein the speed of each electric fan is the same and is controlled by using a single fan switch, and the mode of operation for each thermoelectric module is the same and is controlled by using a common temperature switch.

30. The method as recited in claim 28 wherein the speed of each electric fan is different and is controlled by using a separate fan switch, and the mode of operation for each thermoelectric module is different and is controlled by using a separate temperature switch.

31. The method as recited in claim 27 comprising sensing the temperature of the temperature conditioned air produced by the thermoelectric modules and relaying the temperature information to the controller.

32. The method as recited in claim 27 comprising sensing the temperature of the ambient air surrounding the occupant of the seat and relaying the temperature information to the controller.

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33. The method as recited in claim 27 comprising automatically activating each fan and each thermoelectric module by occupying the seat and automatically deactivating each fan and each thermoelectric device by vacating the seat.

34. The method as recited in claim 27 comprising automatically reducing the power to each thermoelectric module when the thermoelectric modules are operated in a cooling mode, the temperature is below a predetermined maximum cooling temperature, and a predetermined amount of time has passed since the last manual temperature adjustment.

35. The method as recited in claim 27 comprising automatically adjusting the speed of each fan and the operating mode for each thermoelectric module to maintain a conditioned air temperature in a predetermined range, the speed of each fan and operating mode for each thermoelectric device depending on the temperature of the temperature conditioned air being directed to the occupant and the temperature of the ambient air surrounding the occupant.

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36. A method for controlling the temperature climate in a variable temperature occupant seat, the method comprising the steps of:

activating a number of thermoelectric modules for temperature conditioning air to be passed and distributed through a variable temperature seat;

activating at least one fan for passing the temperature conditioned air through air channels inside of the variable temperature seat to an occupant;

sensing the temperature of the thermoelectric modules and relaying the temperature information to a controller configured to automatically regulate the operation of the thermoelectric modules and fans; and

automatically deactivating the electrical power to the thermoelectric modules when the operating temperature of the thermoelectric modules is either above a predetermined maximum temperature or below a predetermined minimum temperature.

37. The method as recited in claim 36 comprising operating the thermoelectric modules by supplying pulsed electricity at predetermined duty cycles that correspond to desired modes of operation.

38. The method as recited in claim 36 comprising automatically reducing the power to the thermoelectric modules when they are operated in a heating mode within a temperature range below the predetermined maximum temperature that indicates a overheating condition, the power being reduced until a normal operating temperature is achieved.

39. The method as recited in claim 38 wherein the predetermined maximum temperature is approximately 349°K and the predetermined minimum temperature is approximately 200°K.

40. The method as recited in claim 36 comprising automatically reducing the power to the thermoelectric modules when they are operated in a cooling mode and the operating temperature is below a predetermined cooling temperature and a predetermined amount of time has passed since the temperature was last adjusted by the occupant.

41. The method as recited in claim 36 comprising sensing the temperature of ambient air surrounding the occupant and relaying the temperature information to the controller.

42. The method as recited in claim 41 comprising sensing the occupance of the seat and relaying the information to the controller.

43. The method as recited in claim 42 comprising automatically activating the power to the thermoelectric modules and fans upon the occupance of the seat and automatically regulating the power to the thermoelectric modules depending on the ambient temperature surrounding the occupant.

44. The method as recited in claim 43 comprising automatically operating the thermoelectric modules in a heating mode when the ambient temperature is below 293°K, and operating the thermoelectric modules in a cooling mode when the ambient temperature is above 297°K.

45. The method as recited in claim 41 comprising sensing the temperature of the conditioned air and relaying the temperature information to the controller.

46. The method as recited in claim 45 comprising reducing the power to the thermoelectric modules when operated in a cooling mode, the operating temperature is below a predetermined cooling temperature, a predetermined amount of time has passed since the temperature was last adjusted by the occupant, and the temperature of the conditioned air directed to an occupant is a cooler by a predetermined amount than the ambient temperature surrounding the occupant.

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~~47~~. A method for controlling the temperature climate in a variable controlled occupant seat, the method comprising the steps of:

activating a number of thermoelectric modules for temperature conditioning air to be passed and distributed through a variable temperature seat;

activating at least one fan for passing the temperature conditioned air through air channels inside of the variable temperature seat to an occupant;

sensing the temperature of the thermoelectric modules and relaying the temperature information to a controller configured to automatically deactivate the operation of the thermoelectric modules and fans when the temperature is below approximately 200°K and above approximately 349°K;

automatically decreasing the electrical power to the thermoelectric modules when the thermoelectric modules are operated in a cooling mode, the temperature is below approximately 303°K, and it has been more than 6 minutes since the operating mode was last adjusted by the occupant; and

automatically decreasing the electrical power to the thermoelectric modules when the thermoelectric modules are operated in a heating mode and the temperature is in the range of from 339°K to 349°K.

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~~48~~. The method as recited in claim ~~47~~ comprising sensing the temperature of the conditioned air directed to the occupant and the temperature of the ambient air surrounding the occupant and relaying the temperature information to the controller.

11 ~~19~~. The method as recited in claim 10 ~~18~~ comprising automatically decreasing the electrical power to the thermoelectric modules when the thermoelectric modules are operated in a cooling mode, the temperature is below approximately 303°K, it has been more than 6 minutes since a the operating mode was last adjusted by the occupant, and the temperature of the conditioned air is more than 3°K less than the temperature of the ambient air.

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